1998-2005 SUSPENSION

Suspension - 163 Chassis

GENERAL INFORMATION

GENERAL NOTES ON WORKING ON VEHICLES WITH LEVEL CONTROL/ADS - AH32.00-P-0002-01A

All models with code 216b, 216c, 217a, 480

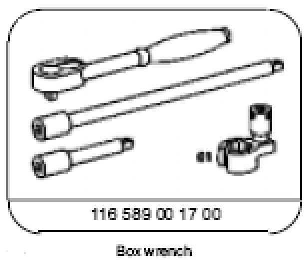


Fig. 1: Identifying Box Wrench (116 589 00 17 00)

The following instructions should be followed when disconnecting and connecting pressure lines:

Clean contaminated line connections before disconnecting them. Seal disconnected lines and hoses and connections to components immediately with blind plugs.

Only use open box wrench and special tool when loosening and tightening pressure lines to avoid damage to the line connections.

Nm Check the component concerned and line connections for leaks after assembly work on the suspension system.

NOTES ON CHECKING OIL LEVEL ON VEHICLES WITH LEVEL CONTROL/ADS - AH32.00-P-0003-01A

All models with SA Code 217a/ 480

Observe the following prerequisites when checking the oil level in the oil reservoir:

1. The vehicle must be standing on its wheels.
2. Check the oil level when the vehicle is ready to drive:
   - Vehicle ready for use with oil and coolant reservoirs filled.
   - Full fuel tank - compensate for any missing fuel by placing additional weight in trunk.
   - Spare wheel and vehicle tool kit in vehicle.
   - Unladen vehicle. Remove any luggage, fuel canisters etc. from the vehicle.

   Nm On vehicles with level control /ADS, the oil level in the oil reservoir may fall below the "min." mark on the oil dipstick when the vehicle is loaded.

GENERAL NOTES: PASSENGER CARS: SUSPENSION - AH32.00-Z-9999AZ

MODEL all

Nm	Special information on AIRmatic	MODEL 164...	AH32.22-P-1000-02GZ
	Special information on AIRmatic	MODEL 240	AH32.22-P-1000-02H
Nm	Special information on AIRmatic	MODEL 251	AH32.22-P-1000-02RT
Nm	Notes on AIRmatic	MODEL 221, 216	AH32.22-P-1000-02SX
Nm	Notes on checking oil level on vehicles with level control/ADS	MODEL all...	**AH32.00-P-0003-01A**
Nm	Springs; general background information.	MODEL 129, 140, 170, 171, 202, 203, 208, 209, 210, 211, 219, 230...	AH32.20-P-9404-01A
Nm	Notes on Active Body Control suspension	MODEL 215, 216, 220, 221, 230...	AH32.50-P-0001-01N
	Notes on AIRmatic	MODEL 220 except CODE (487a) Active body control (ABC)	AH32.22-P-1000-02I
	General notes on working on vehicles with level control/ADS	MODEL all...	**AH32.00-P-0002-01A**
	Notes on air suspension	MODEL 211.2 except CODE (489) Airmatic (semi-active air suspension) MODEL 211.6	AH32.22-P-1000-01T
	Special information on AIRmatic	MODEL 211.0/2, 219 with CODE (489) Airmatic (semi-active air suspension)	AH32.22-P-1000-02T
	Observe removal and installation position of shock absorber/ADS	MODEL 210 with CODE (217a) Level Control at Rear Axle with ADS	AH32.32-P-0001-01A
	General notes on repair work on vehicles with ADS	MODEL 129, 140, 210 with CODE (217a) Self-levelling suspension on rear axle with ADS	AH32.32-P-9406-01A
	Notes on fitting hydraulic lines and hoses	MODEL 215, 216, 220, 221, 230...	AH32.50-P-0001-02A

SAFETY PRECAUTIONS

SAFETY INFORMATION: SUSPENSION - AS32.00-Z-9999ZZ

MODEL all

USA	Risk of death caused by lowering vehicle when working between wheels and body. Risk of injury caused by pinching or jamming when working on the air suspension.	MODEL all	AS32.22-Z-0001-01A

TESTING AND REPAIR

TESTING AND REPAIR WORK: PASSENGER CARS: SUSPENSION - AR32.00-Z-9163AA

MODEL 163

	Remove/install front spring	MODEL 163.113 /128 /136 /154 /157 /172 /17 /175	**AR32.20-P-0200GH**
	Remove/install rear spring	MODEL 163.113 /128 /136 /154 /157 /172 /174 /175	**AR32.20-P-0230GH**
	Remove/install torsion bar on front axle	MODEL 163.113 /128 /136 /154 /157 /172 /174 /175	**AR32.20-P-0300GH**
	Remove/install torsion bar on rear axle	MODEL 163.113 /128 /136 /154 /157 /172 /174 /175	**AR32.20-P-0315GH**
	Remove/install front shock absorber	MODEL 163.113 /128 /136 /154 /157 /172 /174 /175	**AR32.25-P-0105GH**
	Remove/install rear shock absorber	MODEL 163.113 /128 /136 /154 /157 /172 /174 /175	**AR32.25-P-0110GH**
	Checking shock absorber	MODEL 129, 140, 163, 164, 168, 170, 202, 203, 208, 209, 210, 211, 230, 251, 414...	**AR32.25-P-0121A**
	Remove/install rear spring strut	MODEL 163.113 /128 /136 /154 /157 /172 /174 /175	**AR32.25-P-1016GH**

CLAMPING REAR SPRING - AR32.20-P-0200-06GH

AR32.20-P-0200-06GH USA	Clamping rear spring **Risk of injury** with **trapped or crushed fingers** when working on springs or spring loaded components	Use only approved tensioning devices; additionally shield off hazardous area if necessary. Check special tools for damage and correct operation, (visual inspection). Wear protective gloves.	**AS00.00-Z-0001-01A**

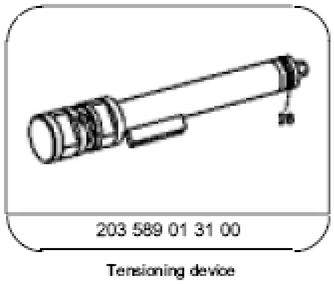


Fig. 2: Identifying Tensioning Device (203 589 01 31 00)

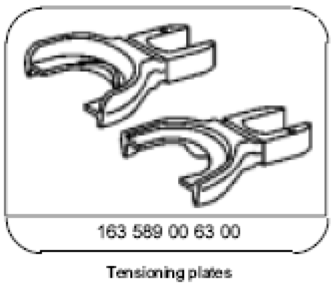


Fig. 3: Identifying Tensioning Plates (163 589 00 63 00)

1. Pre-equip tensioning device.

   Nm Insert tensioning plates (01a) into tensioner (01) until they engage. Press pins (arrows) to remove the clamping plates.

2. Pre-adjust tensioning device to approx. 130 mm (a). This makes it easier to insert the rear spring

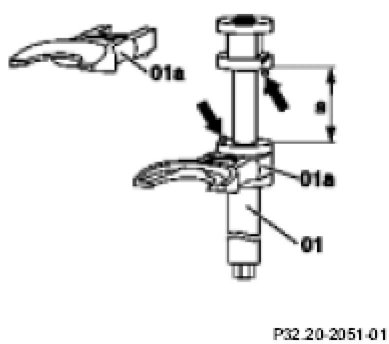
   

   Fig. 4: Identifying Tensioning Plates And Pins

3. Clamp tensioning device (01) horizontal in vise.
4. Insert rear spring (73) in the clamping plates so that the end of the winding of the rear spring is roughly parallel with the upper edge of the clamping plates (arrows a).

   Nm Insert rear spring from the 5th to the 11th rear spring winding (counted from the side with the larger winding diameter in the clamping plates (6 to 7 windings must be clamped).

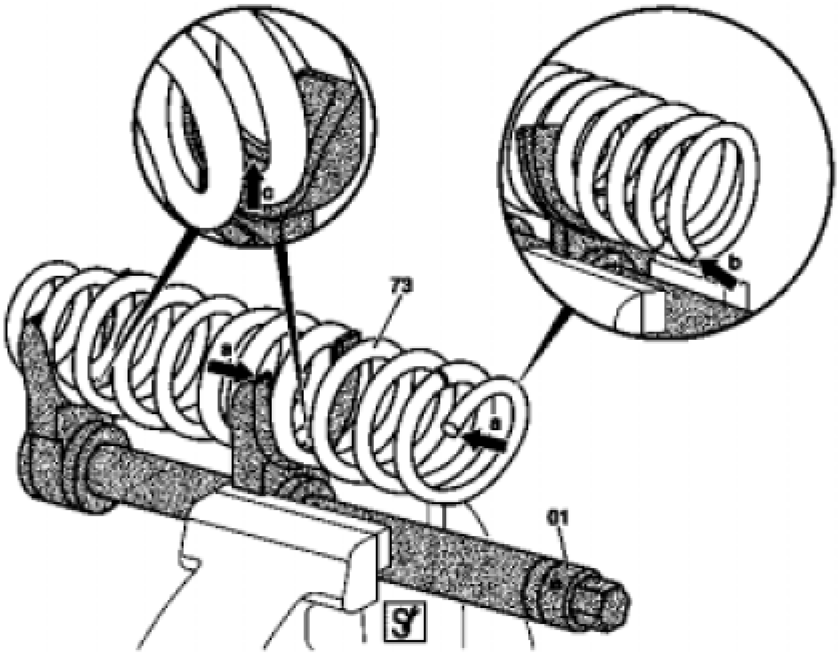
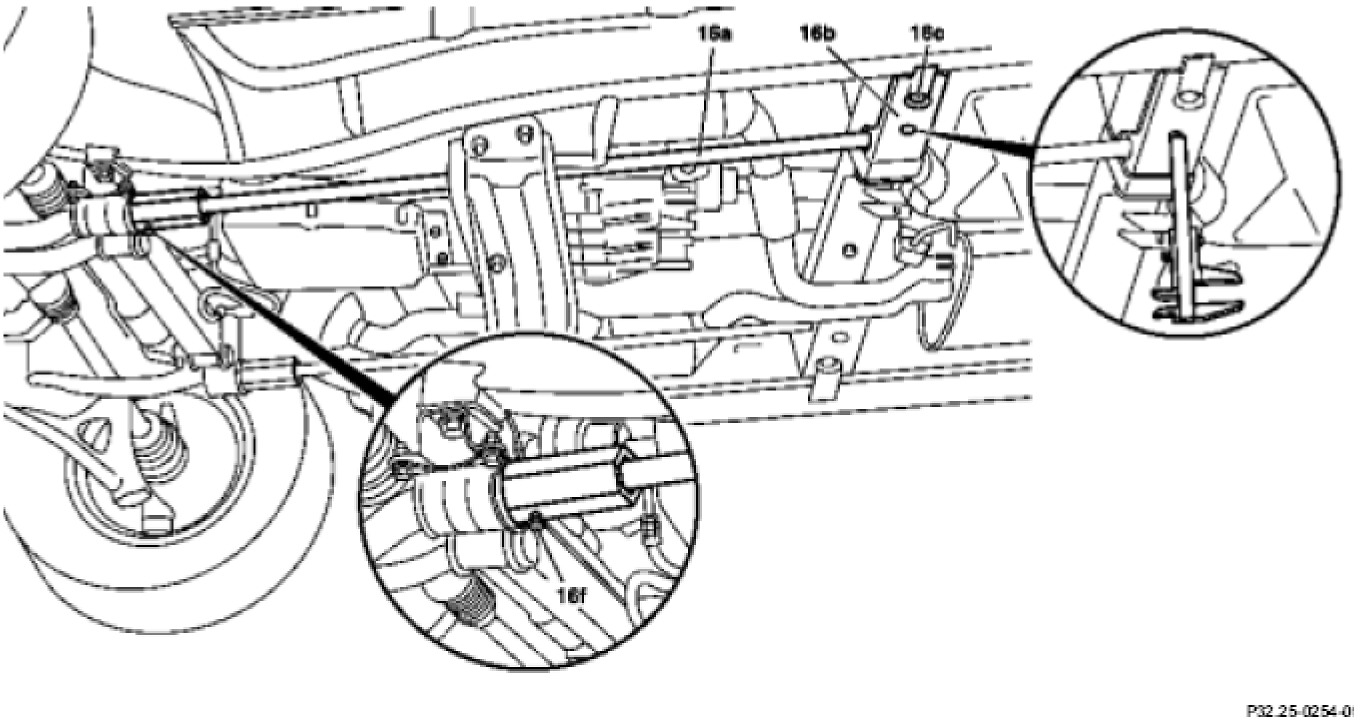


Fig. 5: Clamping Tensioning Device Horizontal In Vise And Rear Spring

5. Rotate rear spring by approx. a quarter of a revolution (counterclockwise) so that the end of the rear spring winding is located approximately in the center of the clamping plate (arrow b).
6. Check whether the lugs of the clamping plates are above the rear spring windings (arrow c), if necessary correct the position of the rear spring.
7. Compress rear spring.

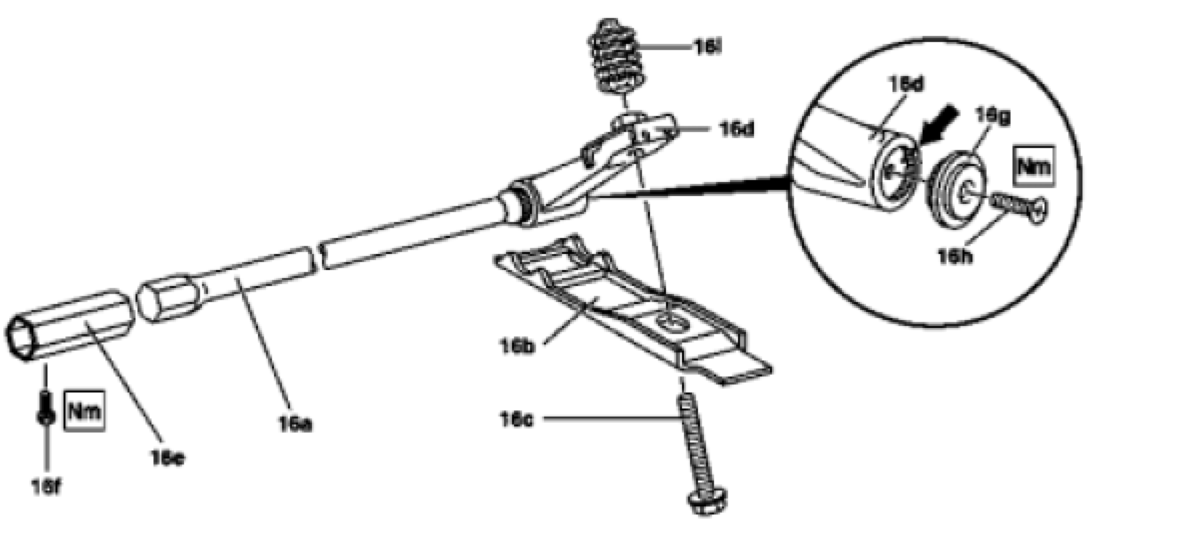
REMOVE/INSTALL FRONT SPRING - AR32.20-P-0200GH

MODEL 163.113 /128 /136 /154 /157 /172 /174 /175



16a	Torsion bar spring	16c	Bolt
16b	Counterplate	16f	Bolt

Fig. 6: Identifying Front Spring Components (1 Of 2)



16a	Torsion bar spring	16d	Clamping lever	16g	End cover
16b	Counterplate	16e	Profile sleeve	16h	Bolt
16c	Bolt	16f	Bolt	16i	Rubber bellows

Fig. 7: Identifying Front Spring Components (2 Of 2)

1	**Remove, Install**		
USA	**Risk of fatal accident** from vehicle slipping or toppling off the lift platform Jack up vehicle	Align vehicle between the columns of lifting platform and position the four support plates below the support strong points specified by the vehicle manufacturer.	**AS00.00-Z-0010-01A**
2	Measure spring preload of torsion bar spring (16a) using caliper gage at bore	Nm **Installation:** Restore spring preload.	
3	Unscrew bolt (16c) and then release tension of torsion bar spring (16a)	Nm **Installation:** regrease bolt (16c). The rubber bellows (16i) must be filled with grease.	***BR00.45-Z-1005-06A**
4	Undo bolt (16f) in profile sleeve (16e).		***BA32.20-P-1001-01A**
5	Slide back profile sleeve (16e).		
6	Remove torsion bar spring (16a).	Nm **Installation:** The position of the torsion bar spring (16a) relative to the clamping lever (16d) is indicated (arrow).	
7	Loosen bolt (16h). Remove end cover (16g).		***BA32.20-P-1002-01A**
8	Remove torsion bar spring (16a) from clamping lever (16d).	Nm **Installation:** Grease gearing on torsion bar spring. Observe markings.	***BR00.45-Z-1005-06A**
9	Install in the reverse order		
10	Check vehicle level at front and rear axles with electronic inclinometer and adjust if necessary.		**AR40.20-P-0301GH**
11 Danger!	Check and correct headlamp adjust Check and correct headlamp adjustment		**AP82.10-P-8260GH**

Steel spring suspension of front axle

Number	**Designation**		**Model 163**
BA32.20-P-1001-01A	Bolt on profile sleeve	NM	23
BA32.20-P-1002-01A	Bolt in end cover	NM	approx.23

Repair materials

Number	**Designation**	**Order number**
BR00.45-Z-1005-06A	Paste	A 000 989 76 51

REMOVE/INSTALL REAR SPRING - AR32.20-P-0230GH

MODEL 163.113 /128 /136 /154 /157 /172 /174 /175

73 Rear spring
73a Nut
73b Plate
73c Upper rubber mount
73d Support bearing
73h Rear spring guide
75 Vibration damper
75c Lower rubber mount
75f Protective sleeve
75g Plate
75y Sleeve
01 Tensioning device
01a Clamping plates

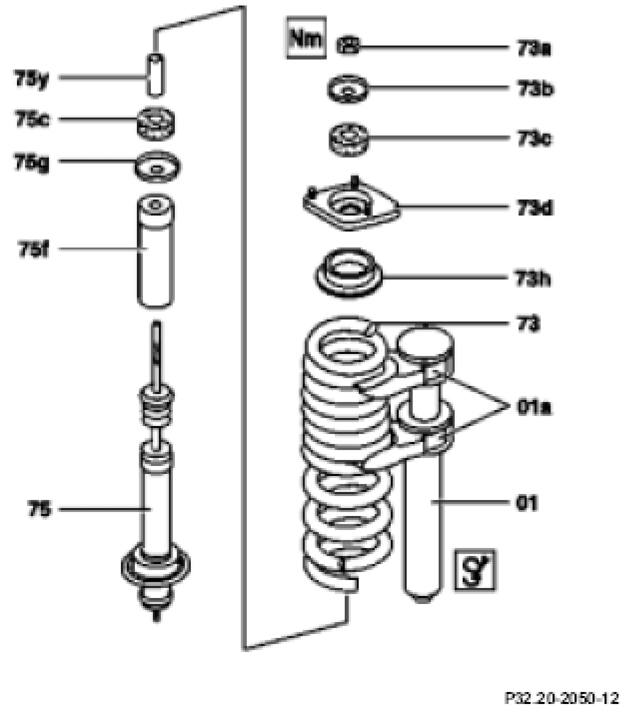


Fig. 8: Identifying Rear Spring Components

	Remove/Install		
USA	**Risk of injury** with **trapped or crushed fingers** when working on springs or spring-loaded components	Use only approved tensioning devices; additionally shield off hazardous area if necessary. Inspect special tools for damage and proper operation (visual inspection). Wear protective gloves.	**AS00.00-Z-0001-01A**
	Notes on self-locking nuts and bolts	All models	**AH00.00-N-0001-01A**
1	Remove spring strut from rear axle		**AR32.25-P-1016GH**
2	Remove shock absorber from spring strut	AH Spring compressor AH Tensioning plates	**AR32.25-P-0200-07GH** ***BA32.25-P-1003-03D** **Fig. 2** **Fig. 3**
3	Unclamp rear spring	Nm **Installation:** ?	

		Compress rear spring. AH Spring compressor AH Tensioning plates	AR32.20-P-0200-06GH Fig. 2 Fig. 3
4	Install in the reverse order		
Nm	Testing		
5 Danger!	Check and correct headlamp adjustment Check and correct headlamp adjustment		AP82.10-P-8260GH

Rear axle shock absorber

Number	Designation		Model Series 163
BA32.25-P-1003-03D	Self-locking nut, shock absorber to rear spring	NM	30

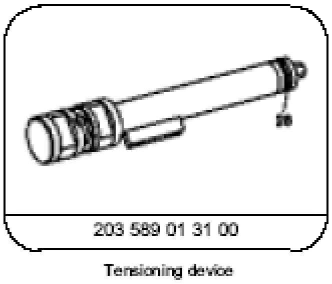


Fig. 9: Identifying Tensioning Device (203 589 01 31 00)

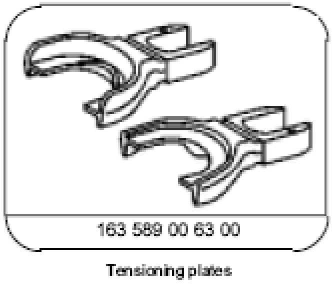
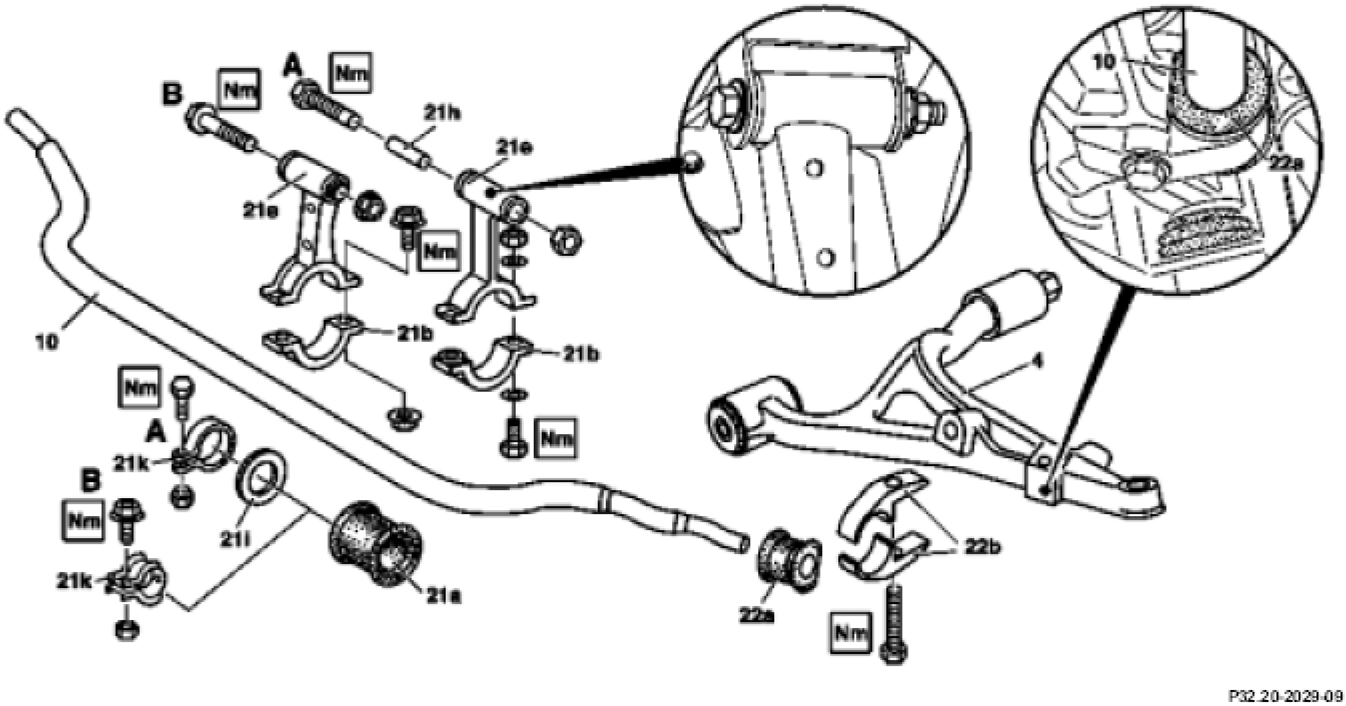


Fig. 10: Identifying Tensioning Plates (163 589 00 63 00)

REMOVE/INSTALL TORSION BAR ON FRONT AXLE - AR32.20-P-0300GH

MODEL 163.113 /128 /136 /154 /157 /172 /174 /175



4	Lower transverse control arm	21e	Retaining bracket	22a	Rubber mount
10	Torsion bar	21h	Sleeve	22b	Bracket
21a	Rubber mount	21i	Washers	A	Version up to 31.07.98
21b	Retaining bracket	21k	Anti-shift device	B	Version as of 01.08.98

Fig. 11: Identifying Torsion Bar On Front Axle

Modification notes

10.7.00	Figure modified from 23 Nm to 15 Nm	Value in BA32.20-P-1004-02G changed for model 163	***BA32.20-P-1004-02G**

	Remove/Install		
	Notes on self-locking nuts and bolts	All models	**AH00.00-N-0001-01A**
Nm	If a part of the version up to 31.07.98 (A) is defective, the repair kit, which still only contains parts for the version as of 01.08.98 (B), must be installed in pairs		
1.1	Remove bottom engine compartment paneling	Nm Model 163.157/ 172/ 174/ 175.	**AR61.20-P-1105GH**
1.2	Remove noise encapsulation	Nm Model 163.113 /128.	AR94.30-P-5400GH
2	Remove bracket (22b) at bottom track control arm (4)		***BA32.20-P-1002-02G**
3	Remove retaining bracket (21b)		***BA32.20-P-**

			1003-02G
4	Remove torsion bar (10)	Nm **Installation:** The torsion bar curvature must point downwards in the area of the shock absorber mounting on the transverse control arm. Center torsion bar.	
5	Pull rubber mounts (22a, 21a) off torsion bar	Nm **Installation:** Observe installation position of rubber mounts.	
6.1	Remove washers (21i) Retaining bracket and anti-shift device of torsion bar modified	Nm Models up to 31.07.98.	BT32.20-P-0003-01GH
7	Undo and remove slide lock (21k)	Nm **Installation:** Center the torsion bar first then tighten the bolts of the anti-shift device (21k).	***BA32.20-P-1004-02G**
8	Remove retaining bracket (21e)	Nm **Installation:** Observe assignment of retaining bracket (left and right version).	***BA32.20-P-1001-02G**
9.1	Press sleeve (21h) out of retaining bracket (21e) Retaining bracket and anti-shift device of torsion bar modified	Nm Models up to 31.07.98.	BT32.20-P-0003-01GH
10	Install in the reverse order		

Front axle torsion strut

Number	Designation		Model Series 163
BA32.20-P-1001-02G	Bolt, retaining bracket to frame	NM	100
BA32.20-P-1002-02G	Bolt, torsion bar to wishbone	NM	68
BA32.20-P-1003-02G	Bolt, retaining bracket to torsion bar	NM	50
BA32.20-P-1004-02G	Bolt, torsion bar clamp	NM	15

REMOVE/INSTALL TORSION BAR ON REAR AXLE - AR32.20-P-0315GH

MODEL 163.113 /128 /136 /154 /157 /172 /174 /175

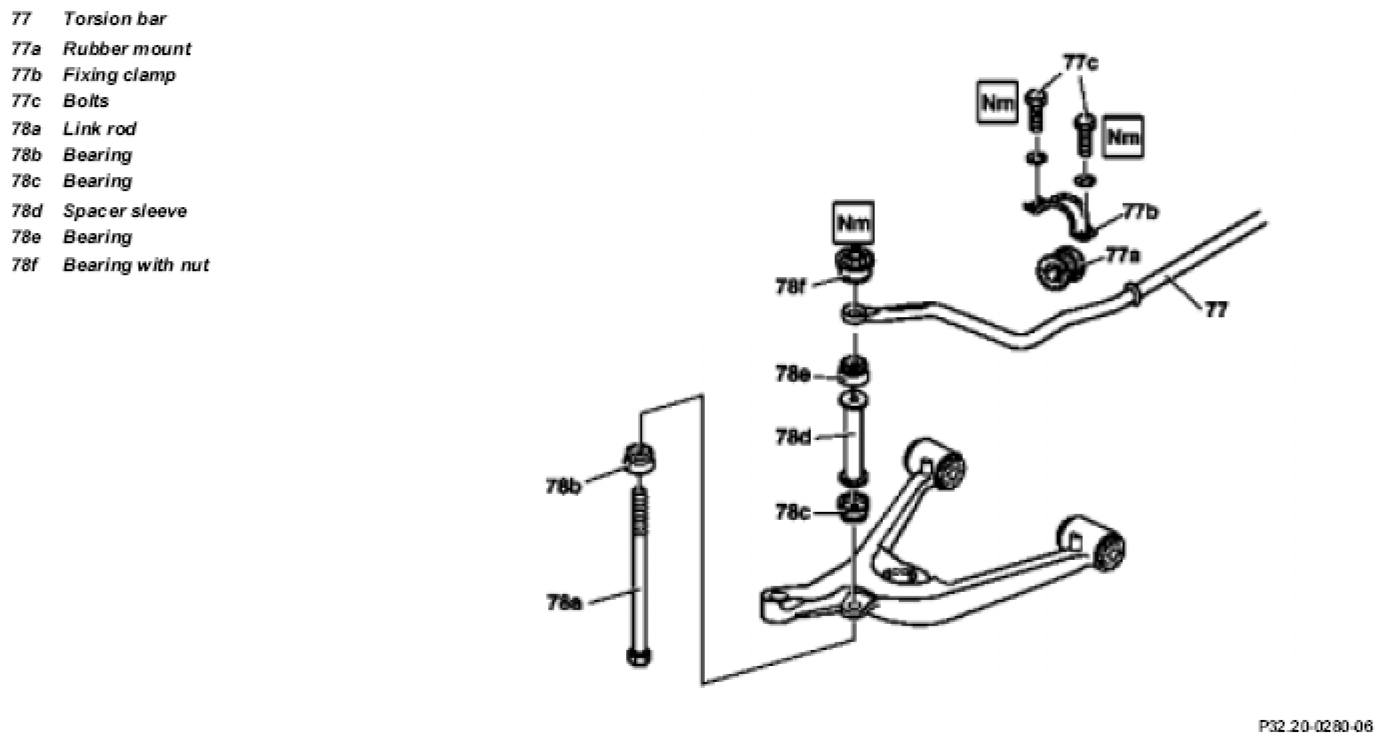


Fig. 12: Identifying Torsion Bar On Rear Axle

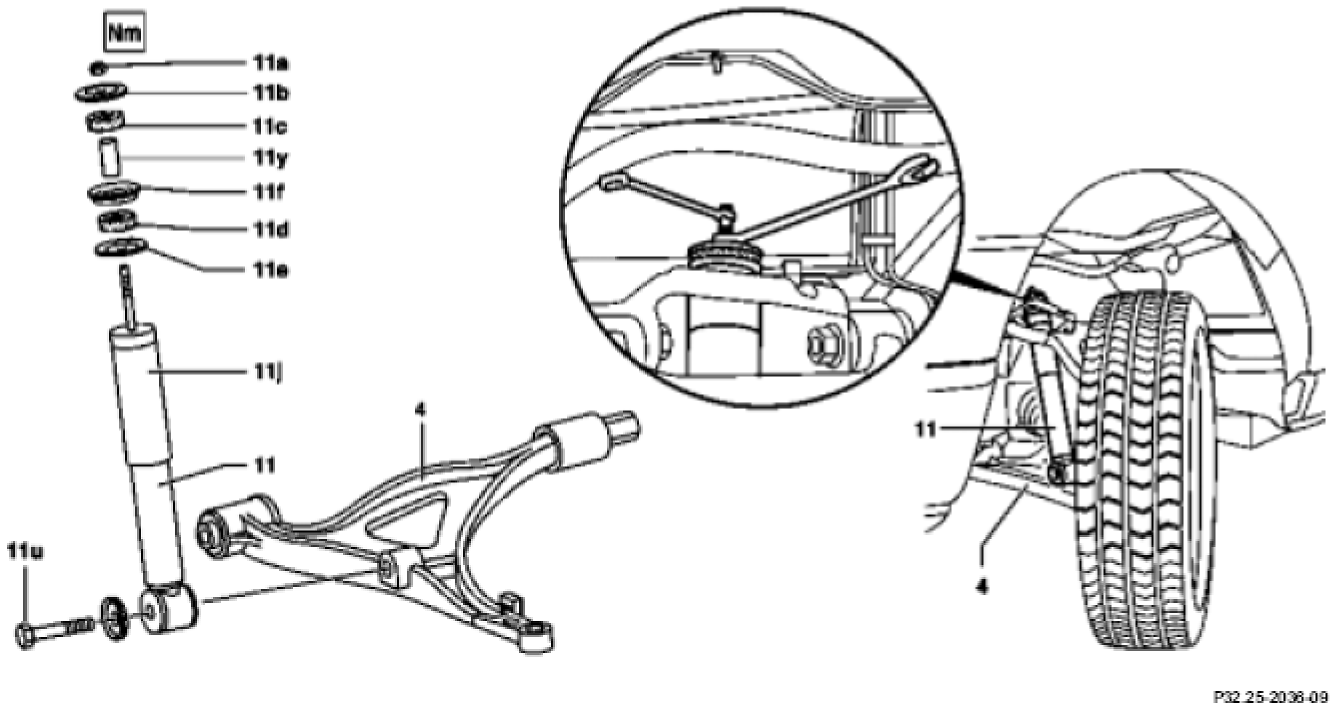
Figure item, etc.	Work instructions		
Installation	Replace self-locking nuts and bolts.		
	Bearing with nut (78f)	**Installation:** Observe order of components (78a-78f)	***BA32.20-P-1001-04F**
	Bolts (77c) on fastening clamp (77b)		***BA32.20-P-1002-04F**
77	Torsion bar		
	Rubber mount	Check and if necessary replace	

Rear axle torsion strut

Number	Designation		Model Series 163
BA32.20-P-1001-04F	Nut, link rod to torsion bar	NM	21
BA32.20-P-1002-04F	Bolt, rubber mount / torsion bar to rear axle carrier	NM	28

REMOVE/INSTALL FRONT SHOCK ABSORBER - AR32.25-P-0105GH

MODEL 163.113 /128 /136 /154 /157 /172 /174 /175



4	Lower transverse control arm	11c	Upper rubber mount	11j	Cover
11	Vibration damper	11d	Lower rubber mount	11u	Bolt
11a	Nut	11e	Plate	11y	Sleeve
11b	Plate	11f	Plate		

11a	Nut
11b	Plate
11c	Upper rubber mount
11d	Lower rubber mount
11e	Plate
11f	Plate
11j	Cover
11y	Sleeve

Fig. 13: Identifying Front Shock Absorber Components (1 Of 2)

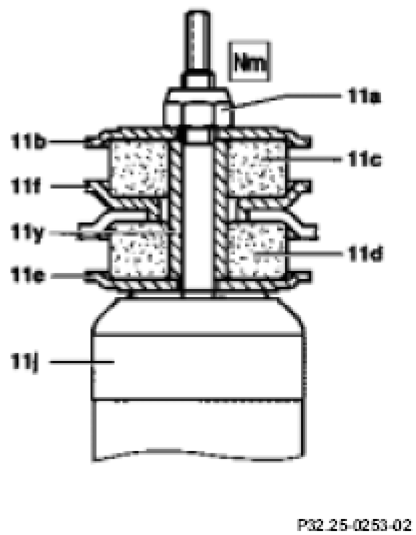


Fig. 14: Identifying Front Shock Absorber Components (2 Of 2)

	Remove/Install		
	Notes on self-locking nuts and bolts	All models	**AH00.00-N-0001-01A**
USA	**Lethal injuries** are possible if vehicle slips off of lifting platform	Align vehicle between the columns of the hydraulic hoist and position the four support plates below the hoist support points specified by the vehicle manufacturer.	**AS00.00-Z-0010-01A**
1	Raise vehicle.		
2	Remove fender liner.		**AR88.10-P-1300GH**
3	Detach upper shock absorber mounting	Nm The vehicle must be standing on its wheels when removing the upper shock absorber mounting. Nm **Installation:** If a black version of the upper rubber mounts(11c) and lower rubber mounts (11d) are installed, these should be identified as upper and lower. The top rubber mounts are harder than the bottom mounts. Nm Loosen nut (11a). Counter using an open-end wrench. Remove plate	

		(11b), upper rubber mount (11c), lower rubber mount (11d), plate (11e) and plate (11f). Nm **Installation:** If new upper rubber mounts (11c) and lower rubber mounts (11d) are used, the white coated (harder must be installed at the top and the yellow coated (softer) must be installed at the bottom. Observe the sequence of the separate parts and if necessary the markings applied to the upper rubber mount (11c) and lower rubber mount (11d).	***BA32.25-P-1002-01C**
4	Detach lower shock absorber mounting from lower transverse control arm (4)	Nm **Installation:** Only tighten bolt (11u) when the vehicle is on its wheels in the ready-to-drive condition.	***BA32.25-P-1001-01C**
5	Remove shock absorber (11)		
6	Shock absorber inspection	Nm Install new shock absorber if necessary.	**AR32.25-P-0121A**
i	Disposing of shock absorber		OS32.25-P-0121-01GH
7	Install in the reverse order		

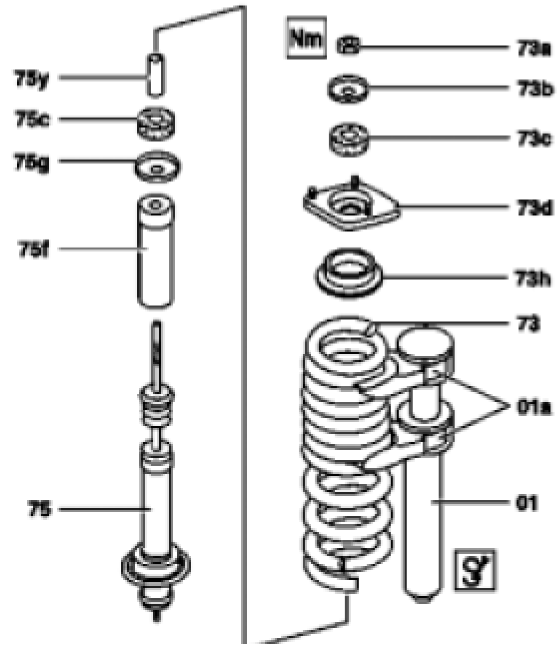
Front axle shock absorber

Number	**Designation**		**Model Series 163**
BA32.25-P-1001-01C	Bolt, shock absorber to lower wishbone	NM	130
BA32.25-P-1002-01C	Self-locking nut, shock absorber to longitudinal frame member	NM	30

REMOVE/INSTALL REAR SHOCK ABSORBER - AR32.25-P-0110GH

MODEL 163.113 /128 /136 /154 /157 /172 /174 /175

73 Rear spring
73a Nut
73b Plate
73 Rubber mount
73d Support bearing
73 Spring guide
75 Vibration damper
75c Upper rubber mount
75f Protective sleeve
75g Plate
75y Sleeve
01 Tensioning device
01a Clamping plates



P32.20-2050-12

Fig. 15: Identifying Rear Shock Absorber Components

	Remove/Install		
USA	**Risk of injury** with **trapped or crushed fingers** when working on springs or spring-loaded components	Use only approved tensioning devices; additionally shield off hazardous area if necessary. Inspect special tools for damage and proper operation (visual inspection). Wear protective gloves.	**AS00.00-Z-0001-01A**
	Notes on self-locking nuts and bolts	All models	**AH00.00-N-0001-01A**
1	Remove spring strut from rear axle		**AR32.25-P-1016GH**
2	Remove shock absorber from spring strut	AH Spring compressor AH Tensioning plates	**AR32.25-P-0200-07GH** **Fig. 2** **Fig. 3** ***BA32.25-P-1003-03D**
3	Shock absorber inspection	Install new shock	**AR32.25-P-0121A**

i	Disposing of shock absorber	absorber if necessary.	OS32.25-P-0121-01GH
4	Install in reverse sequence.		

Rear axle shock absorber

Number	Designation		Model Series 163
BA32.25-P-1003-03D	Self-locking nut, shock absorber to rear spring	NM	30

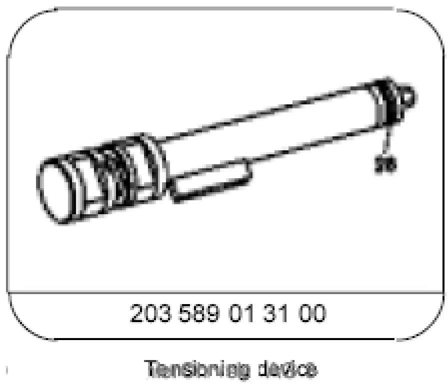


Fig. 16: Identifying Tensioning Device (203 589 01 31 00)

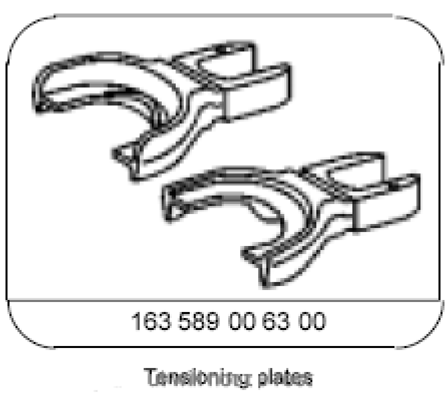


Fig. 17: Identifying Tensioning Plates (163 589 00 63 00)

CHECKING SHOCK ABSORBER - AR32.25-P-0121A

MODEL 129

MODEL 140

MODEL 163.113 /128 /136 /154 /157 /172 /174 /175

MODEL 168

MODEL 170

MODEL 202

MODEL 203

MODEL 208

MODEL 209.3/ 4

MODEL 210 except CODE (489) Airmatic (semi-active air suspension)

MODEL 211.0 /2 /6 except CODE (489) Airmatic (semi-active air suspension)

MODEL 414

MODEL 230 except CODE (487) Active Body Control (ABC)

MODEL 164, 251 except CODE (489) Airmatic (air suspension with level adjustment and adaptive damping system ADS)

Shown on shock absorber in model 202



Fig. 18: Identifying Extension Dimension - Shown On Shock Absorber In Model 202

Nm	**Checking**		
1.1	Check piston rod for surface damage, bending and for moving in the guide bush without jamming	Nm Only if the old shock absorber is to be installed again. Nm Dispose of shock absorber if necessary.	

		Nm By workshop: ?	
i	Disposing of shock absorber	Model 129, 140, 170, 202, 208, 210	OS32.25-P-0121-01A
i		Models 163, 164, 251	OS32.25-P-0121-01GH
i		Model 168, 203, 209, 414.700	OS32.25-P-0121-01GC
i		Model 211	OS32.25-P-0121-01TX
		Model 230	
		Nm Disposal by scrap dealer: ?	
i		Notes on scrapping gas-filled hydraulic components	**OS00.00-P-1000-01A**
2.1	Check damper for external oil leaks	Nm Only if the old shock absorber is to be installed again Nm A thin film of oil on the shock absorber is permissible. Nm Dispose of shock absorber if necessary. Nm By workshop: ?	
i	Disposing of shock absorber	Model 129, 140, 170, 202, 208, 210	OS32.25-P-0121-01A
i		Models 163, 164, 251	OS32.25-P-0121-01GH
i		Model 168, 203, 209, 414.700	OS32.25-P-0121-01GC
i		Model 211	OS32.25-P-0121-01TX
		Model 230	
		Nm Disposal by scrap dealer: ?	
i		Notes on scrapping gas-filled hydraulic components	**OS00.00-P-1000-01A**
3.1	Check shock absorber for internal leakage	Nm Only if the old shock absorber is to be installed again. Nm This test is not possible on models 140, 163, 164, 168, 203, 209, 251, 414.700. Nm The volume of oil in the shock absorber is determined by means of	

		the projection length (a) of the piston rod. Nm Push in piston rod as far as it will go. Then hold vertically so that piston rod points down, and measure projection length (a) of piston rod. Shock absorber in new condition: Shock absorber in used condition:	
		Model 129, 170, 202, 208, 210, 211, 230	***BE32.25-P-1002-02A**
		Model 129, 170, 202, 208, 210, 211, 230	***BE32.25-P-1001-02A**
		If shock absorber exceeds specified value, dispose of it: Nm By workshop: ?	
i	Disposing of shock absorber	Model 129, 170, 202, 208, 210	OS32.25-P-0121-01A
i		Model 211	OS32.25-P-0121-01TX
		Model 230 Nm Disposal by scrap dealer: ?	
i		Notes on scrapping gas-filled hydraulic components	**OS00.00-P-1000-01A**
4.1	Check rubber mount in housing eye, replace if necessary	Nm Only on shock absorbers with rubber mount in housing eye and only if the shock absorber is not replaced. The rubber mounts must be seated securely in the body eye and must not be cracked or damaged. If fitted, damaged rubber mounts can cause knocking noises.	

Test values for shock absorber

Number	Designation		Model 129	Model 170	Model 202
BE32.25-P-1001-	Oil reserve check	mm	0+2	0+2	0+2

02A	(shock absorber when new)			
BE32.25-P-1002-02A	Oil reserve check (shock absorber when used) mm	< or =20	< or =20	< or =20

Test values for shock absorber

Number	Designation	Model 208	Model 210	Model 211
BE32.25-P-1001-02A	Oil reserve check (shock absorber when new) mm	0+2	0+2	0+2
BE32.25-P-1002-02A	Oil reserve check (shock absorber when used) mm	< or =20	< or =20	< or =20

Test values for shock absorber

Number	Designation	Model 230
BE32.25-P-1001-02A	Oil reserve check (shock absorber when new) mm	0+2
BE32.25-P-1002-02A	Oil reserve check (shock absorber when used) mm	< or =20

REMOVE/INSTALL SHOCK ABSORBER ON SPRING STRUT - AR32.25-P-0200-07GH

Use only approved tensioning devices; additionally shield off hazardous area if necessary.

Check special tools for damage and correct operation, (visual inspection). Wear protective gloves.

Rear axle shock absorber

Number	Designation	Model Series 163
BA32.25-P-1003-03D	Self-locking nut, shock absorber to rear spring NM	30

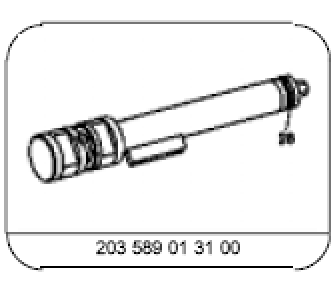


Fig. 19: Identifying Tensioning Device (203 589 01 31 00)

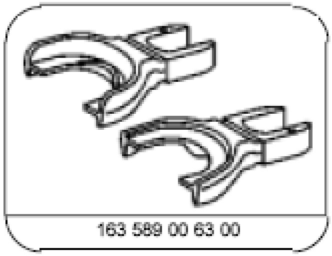


Fig. 20: Identifying Tensioning Plates (163 589 00 63 00)

1. Pre-equip tensioning device.

   Nm Insert tensioning plates (01a) into tensioner (01) until they engage. Press pins (arrows) to remove the clamping plates.

2. Pre-adjust tensioning device to approx. 130 mm (a). This makes it easier to insert the rear spring

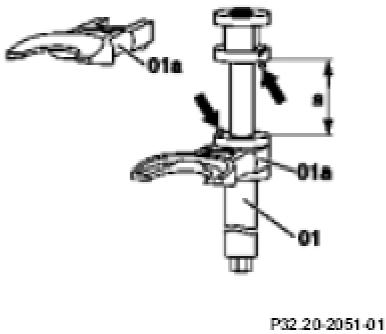
   

   Fig. 21: Identifying Tensioning Plates And Pins

3. Clamp tensioning device (01) horizontal in vise.
4. Insert rear spring (73) in the clamping plates (01) so that the end of the winding of the rear spring is roughly parallel with the upper edge of the clamping plates (arrows).

   Nm Insert rear spring from the 5th to the 11th rear spring winding (counted from the side with the larger winding diameter in the clamping plates (6 to 7 windings must be clamped).

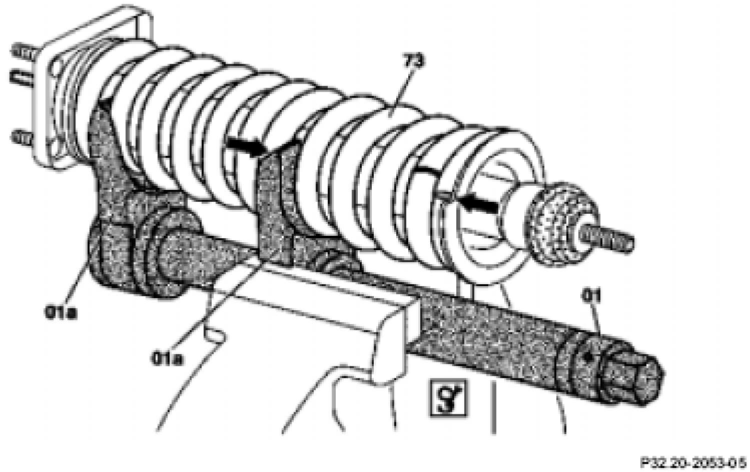


Fig. 22: Clamping Tensioning Device Horizontal In Vise

5. 73Rotate rear spring (73)by approx. a quarter of a revolution (counterclockwise) so that the end of the rear spring winding is located approximately in the center of the clamping plate (arrow a).
6. Check whether the lugs of the clamping plates are located above the rear spring windings (arrow b), if necessary correct the position of the rear spring.
7. Mark the position of the rear spring (73) relative to the support bearing (73d) and rear spring guide (73h) (arrow c).

Nm **Installation:** When the rear spring is relieved of load the markings applied must align.

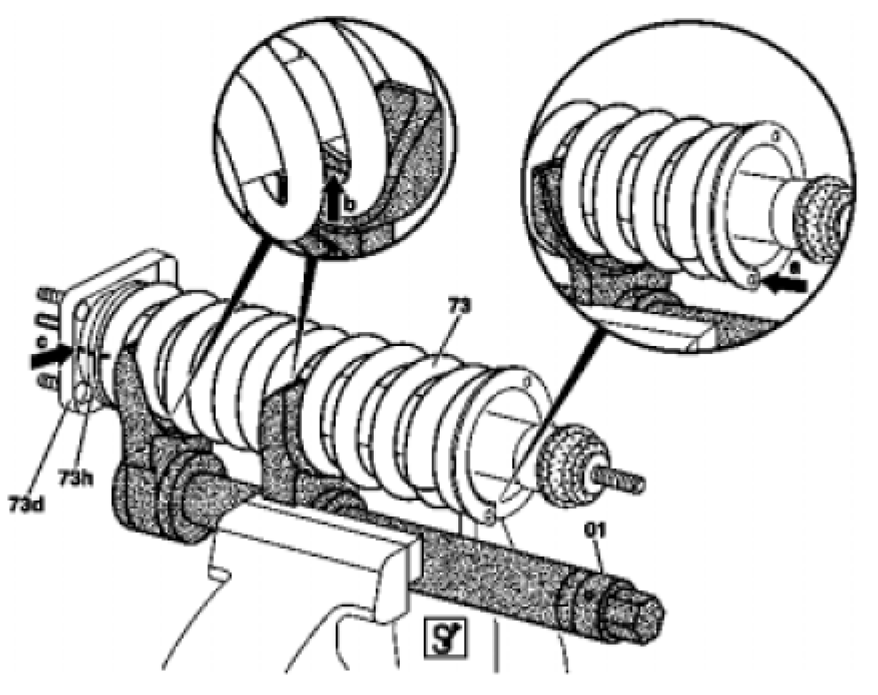


Fig. 23: Identifying Tensioning Device Horizontal In Vise

Nm When replacing the rear spring, support bearing or rear spring guide, the markings from the old components must be taken over.

8. Compress rear spring.
9. Unscrew nut (73a) of the upper shock absorber mounting, counterholding the piston rod in the process.
10. Remove plate (73b), upper rubber mount (73c), support bearing (73d) and spring guide (73h)

    Nm **Installation:** Pay attention to correct position of components.

11. Pull out shock absorber and remove lower rubber mount (75c), sleeve (75y), plate (75g) and protective sleeve (75f).

    Nm **Installation:** Pay attention to correct position of components.

12. Install in reverse sequence.

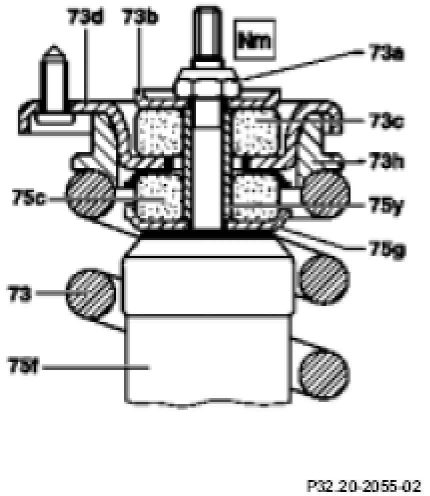
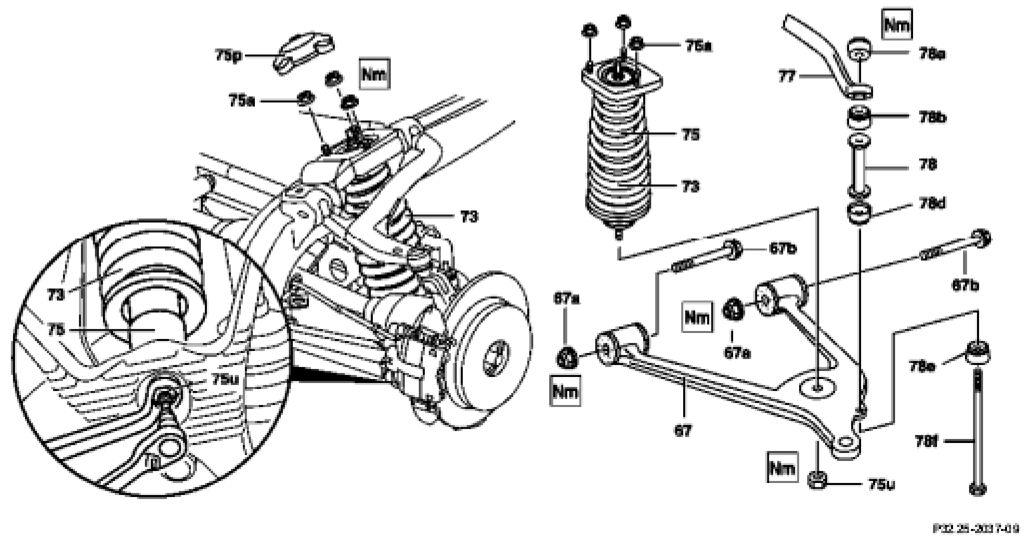


Fig. 24: Identifying Plate, Upper Rubber Mount, Support Bearing And Spring Guide

REMOVE/INSTALL REAR SPRING STRUT - AR32.25-P-1016GH

MODEL 163.113 /128 /136 /154 /157 /172 /174 /175



67	Lower wishbone	75a	Nuts	78a	Bearing with nut
67a	Nuts	75u	Nut	78b	Bearing
67b	Bolts	75p	Cover	78d	Bearing
73	Rear spring	77	Torsion bar	78e	Bearing
75	Vibration damper	78	Distance sleeve	78f	Link rod

Fig. 25: Identifying Rear Spring Strut Components

	Remove/Install		
	Notes on self-locking nuts and bolts	All models	**AH00.00-N-0001-01A**
1 Danger!	Remove rear wheels Remove/install wheels, rotate if necessary		**AP40.10-P-4050GH**
2.1	Remove spare wheel	Except with spare wheel holder/spare wheel, code 849 and model 163.174 (vehicle with auxiliary fuel tank).	
3.1	Remove spare wheel holder	Except with spare wheel holder/spare wheel, code 849 and model 163.174 (vehicle with auxiliary fuel tank). Pull out locking pin. Remove spare wheel bracket from side rail.	
4.1	Remove wheel housing lining	On model 163.174 (vehicle with auxiliary fuel tank).	
5	Pull off cover (75p)	**Installation:** Pay attention to correct	

		seating.	
6	Remove nuts (75a) from top spring strut mounting on frame side member		***BA32.25-P-1002-03D**
7	Detach nut (75u) from lower suspension strut mounting to lower transverse control arm (67)	Nm Counterhold threaded rod.	***BA32.25-P-1001-03D**
USA 8	**Lethal injuries** are possible if vehicle slips off of lifting platform Support lower transverse control arm (67)	Align vehicle between the columns of the lifting platform and position the four support plates at the lifting platform support points specified by the vehicle manufacturer.	**AS00.00-Z-0010-01A**
9	Remove link rod (78f) between lower transverse control arm (67) and torsion bar (77)		***BA32.20-P-1001-04F**
10	Detach lower transverse control arm (67) from rear axle carrier	Nm **Installation:** The rear axle shaft must be horizontal when tightening the bolts (67b).	***BA35.20-P-1003-07A**
11	Lower the lower transverse control arm (67) carefully, pull out of guide and swing downwards		
12	Press the suspension strut upwards out of the transverse control arm (67) and remove	Nm In the event of stiffness, if necessary hammer the shock absorber (75) carefully out of the lower transverse control arm (67) using a plastic-headed mallet.	
13	Install in the reverse order		
Nm	**Inspect**		
14 Danger!	Check and correct headlamp adjustment Check and correct headlamp adjustment		**AP82.10-P-8260GH**

Rear axle torsion strut

Number	**Designation**	**Model Series 163**

BA32.20-P-1001-04F	Nut, link rod to torsion bar	Nm	28

Rear axle shock absorber

Number	Designation		Model Series 163
BA32.25-P-1001-03D	Self-locking nut, shock absorber to lower wishbone	NM	85
BA32.25-P-1002-03D	Self-locking nut, shock absorber to frame side member	NM	20

Wheel location

Number	Designation		Model Series 163
BA35.20-P-1003-07A	Self-locking nut of lower wishbone to rear axle carrier	NM	135

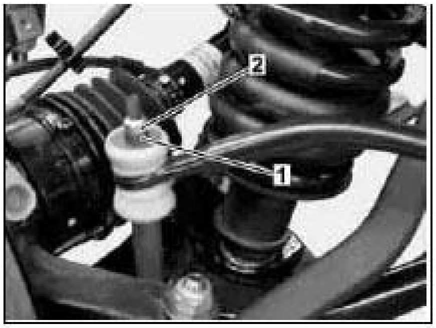
REMOVAL & INSTALLATION

INSTALLING PINCH NUT ON REAR STABILIZER BAR CONNECTING ROD BOLT - SM32.35-P-0001A

MODEL 163.154 #A as of 000001 up to 014254

Nm Vehicles within the Effective Serial Number Range, must have the following work performed during next scheduled maintenance or service. Install pinch nut to ensure proper tightening torque of rear stabilizer bar mounting.

Nm Damage code for warranty/goodwill claim: 32 920 07



P32.35-2001-01

Fig. 26: Identifying Rear Stabilizer Bar And Pinch Nut

	Installation		
1	Retorque nut (1) on rear stabilizer bar connecting rod bolt		***BA32.20-P-1001-04F**

2	Install pinch nut (2) on top of previously torqued connecting rod bolt nut		
3	Counterhold connecting rod bolt nut (1) while torquing pinch nut (2)		***BA32.20-P-1003-04F**
4	Repeat for opposite side		

Rear axle torsion bar

Number	Designation		Model 163
BA32.20-P-1001-04F	Nut, connecting rod to torsion bar	NM	28
BA32.20-P-1003-04F	Pinch nut, connecting rod to torsion bar	NM	28

Parts ordering notes

Part no.	Designation	Quantity
N910123 008001	Pinch Nut	1 per side